



Shay Bilchik, Administrator

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## JUVENILE JUSTICE BULLETIN

# Epidemiology of Serious Violence



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*This Bulletin introduces the Office of Juvenile Justice and Delinquency Prevention (OJJDP) Youth Development Series, created to present findings from the Program of Research on the Causes and Correlates of Delinquency for public officials, juvenile justice practitioners, and other interested parties. The Causes and Correlates program—three coordinated, longitudinal research projects supported by OJJDP funding since 1986—represents a milestone in criminological research because it constitutes the largest shared-measurement approach ever achieved in delinquency research. Teams at the University at Albany, State University of New York; the University of Colorado; and the University of Pittsburgh collaborated extensively in designing the studies. At study sites in Rochester, New York; Denver, Colorado; and Pittsburgh, Pennsylvania, the three research teams have interviewed 4,000 participants at regular intervals for nearly a decade, recording their lives in detail.*

*The Causes and Correlates program is providing an empirical foundation for a new generation of preventive, judicial, and therapeutic interventions. The research findings to date indicate that preventing the onset of delinquency requires accurate identification of the risk factors that increase the likelihood of delinquent*

*behavior and the protective factors that enhance positive adolescent development.*

*It is vital that we now take the next step from research to action. OJJDP believes that the important findings presented in the Youth Development Series and the insights derived from them will stimulate informed public debate about juvenile crime and shape future responses to this critical societal problem.*

## Juvenile Offending Rates and Victimization Trends

By the early 1990's, rates of criminal violence, including youth violence, reached unparalleled levels in American society. Compared to adolescents in other countries, American teenagers exhibit alarmingly high rates of violence. For example, an American 17-year-old is 10 times more likely to commit murder than his or her Canadian counterpart (Silverman and Kennedy, 1993; Blumstein, 1994).

Criminologists now question the conventional wisdom that young adults represent the most violence-prone age group. In recent years, teenagers have so accelerated their rate of involvement that

### From the Administrator

Over the past decade, juvenile violence has spread like an epidemic among a small, but nonetheless significant, segment of America's young people. Just as a single dose of medicine will be ineffective against a virulent illness, so will one-time remedial action prove inadequate to prevent or successfully intervene in juvenile delinquency. Long-term, continuing solutions are needed—solutions based on a thorough understanding of the developmental changes in a child's journey to adulthood, the varied negative influences they face along the way, and the pathways some follow to delinquent and criminal behavior.

To share new information about child development and delinquency, OJJDP is initiating a series on youth development that will present some of the most notable findings from our Program of Research on the Causes and Correlates of Delinquency. *Epidemiology of Serious Violence*, the first Bulletin in the series, answers basic questions about the varying levels of involvement in violent acts according to age, sex, and ethnicity and recommends a public health model of prevention, treatment, and control.

The findings and conclusions presented here will be invaluable to all those who are working to turn America's youth away from violence and toward a safer future.

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Administrator

in 1994 teens ages 15 to 17 slightly exceeded the arrest rate of young adults ages 18 to 20 for Violent Crime Index offenses (Snyder, 1996). Increased youth involvement in violence is clearly evident from an analysis of official juvenile offending rates and victimization trends over the past decade.

The first statistical trends to consider are those regarding juveniles arrested for Violent Crime Index offenses, that is, murder and nonnegligent manslaughter, forcible rape, robbery, and aggravated assault. From 1986 to 1995, juvenile arrests for Violent Crime Index offenses increased 67 percent, with changes in specific crime rates as shown below:

- ◆ Juvenile arrests for murder and nonnegligent manslaughter increased 90 percent.
- ◆ Juvenile arrests for forcible rape declined 4 percent.
- ◆ Juvenile arrests for robbery increased 63 percent.
- ◆ Juvenile arrests for aggravated assault increased 78 percent (Snyder, 1997).

Second, while boys still account for more than their share of serious violence, statistical evidence indicates that girls are increasingly involved in aggressive crimes:

- ◆ In 1995, females were responsible for 15 percent of the total juvenile arrests for Violent Crime Index offenses, with the most extensive involvement in aggravated assault arrests (20 percent).
- ◆ From 1991 to 1995, female juvenile arrests for Violent Crime Index offenses increased 34 percent, nearly four times the male juvenile increase of 9 percent (Snyder, 1997).

Third, 1994 data from the "National Crime Victimization Survey" (Bureau of Justice Statistics, unpublished tables) demonstrate how frequently youth are victims of the violent crimes of simple and aggravated assault, rape, and robbery:

- ◆ A total of 2.6 million violent crimes were committed against juveniles ages 12 to 17, representing a 44-percent increase since 1984.
- ◆ Among 12- to 17-year-olds, boys were one and one-half times more likely to be victims of violent crimes than girls.
- ◆ Younger adolescents ages 12 to 14 were equally at risk for violent victimization as older adolescents ages 15

to 17. Nearly 12 percent of all adolescents were victims of violent crime in 1994.

Fourth, it is instructive to examine trends regarding juveniles who are homicide victims:

- ◆ The number of juveniles murdered increased 82 percent between 1984 and 1994. A daily average of seven juveniles were homicide victims in 1994. This means that each week about 50 families lost a child to violence.
- ◆ From 1984 to 1994, juvenile homicide victimizations involving firearms nearly tripled, while those not involving firearms remained constant (Snyder et al., 1996).

Although youth violence affects all segments of American society, it has particularly devastating effects on the African-American community, as the following statistics show:

- ◆ In 1994, African-American juveniles were six times more likely than Caucasian juveniles to be homicide victims (Snyder et al., 1996).
- ◆ Homicides involving firearms have been the leading cause of death for African-American males ages 15 through 19 since 1969, and the rates have more than doubled from 1979 to 1989 (Snyder and Sickmund, 1995).
- ◆ Since 1987, African Americans have outnumbered Caucasians as juvenile homicide offenders. By 1994, 61 percent of juvenile homicide offenders were African American and 36 percent were Caucasian (Snyder et al., 1996).

By any reasonable standard, current national rates of youth violence are unacceptably high. Projections of dramatic increases in juvenile violent crime arrests in the next century are cause for even greater concern (Snyder et al., 1996). However, there is some recent good news about the juvenile violent crime arrest rate. In 1995, for the first year in nearly a decade, the number of juvenile arrests for Violent Crime Index offenses declined. The 3-percent decrease included a 14-percent decline in juvenile arrests for murder and nonnegligent manslaughter, a 4-percent decline in forcible rape, a 1-percent decline in robbery, and a 3-percent decline in aggravated assault from 1994 to 1995 (Snyder, 1997).

Findings from the Program of Research on the Causes and Correlates of Delinquency provide valuable insights about

the epidemiology of serious violence among youth. It might be helpful to conceptualize violence as an infectious disease spreading among the Nation's youth and utilize the public health model of prevention, treatment, and control. The Causes and Correlates studies clearly illustrate that all youth are not equally likely to engage in violent behavior. This lends credibility to adopting a disease prevention perspective that requires clear identification of the at-risk population:

- ◆ At what ages are children and adolescents most likely to engage in serious violent behavior?
- ◆ How does the prevalence of violent juvenile offending vary by gender and ethnicity?
- ◆ How frequently do violent youth commit offenses?
- ◆ What portion of youth successfully avoid involvement in violence throughout the course of adolescent development?

The following discussion uses information from the Causes and Correlates studies to answer these four key questions regarding the epidemiology of serious violence among juveniles.

## Overview of Study Design

The Causes and Correlates studies are designed to improve the understanding of serious delinquency, violence, and drug use through the examination of how individual youth develop within the context of family, school, peers, and community. In 1986, OJJDP initiated support for three coordinated longitudinal projects: the Denver Youth Survey, the Pittsburgh Youth Study, and the Rochester Youth Development Study.

A full description of the design of each study is provided in OJJDP's *Urban Delinquency and Substance Abuse: Technical Report and Appendices* (1993). This report was jointly prepared by the three research teams under the direction of the principal investigators: David Huizinga at the University of Colorado, Rolf Loeber at the University of Pittsburgh, and Terence P. Thornberry at the University at Albany, State University of New York. While each of the three projects has unique features, they share several key elements.

All of the projects are longitudinal investigations that involve repeated contacts

with the same juveniles over a substantial portion of their developmental years. Repeated contacts allow more accurate pinpointing of when a young person initiates certain behaviors, such as violent delinquency, and offer the opportunity to examine potential causal factors that may influence the onset, frequency, severity, and termination of aggression.

Moreover, the Program of Research on the Causes and Correlates of Delinquency constitutes the most comprehensive shared-measurement approach in longitudinal delinquency research. Each of the three sites utilizes core measures to collect data on a wide range of key variables, including delinquent behavior, drug use, juvenile justice system involvement, community characteristics, family experiences, peer relationships, educational experiences, attitudes and values, and demographic characteristics.

The basic measure used to obtain estimates of the extent of youth involvement in serious violence is essentially identical across sites. This allows the comparison of sites on a common measure and the opportunity to reach more valid conclusions regarding cross-site similarities and differences on such factors as the age of onset of violent crime.

In each project, researchers conducted face-to-face interviews with individual juveniles in a private setting to collect self-report information on the nature and frequency of serious violent behavior within the last reporting period. The advantage of utilizing self-report data, rather than juvenile justice records of arrests, is that researchers come much closer to measuring actual violent behaviors and ascertaining when a violent career began. Indeed, what is sought is prevention of not merely those crimes

resulting in an arrest, but any violent behavior that victimizes a community.

The three longitudinal studies are prospective in nature, that is, subjects are repeatedly contacted to report on their current and recent violent activities. Deterioration of recall is minimized by avoiding lengthy gaps between interviews. Reporting periods were either 6 or 12 months, and for the purposes of this report, all self-report violence data have been calculated for annual periods. Sample retention has been excellent; at least 84 percent of the subjects have been retained at each of the sites, and the average rate of retention across all waves is 90 percent.

Samples were carefully drawn to capture inner-city youth considered at high risk for involvement in delinquency and drug abuse. The samples can be described as probability samples, in which youth at greater risk are oversampled. However, for the purposes of this report, the researchers have statistically weighted the samples to represent the general populations from which the samples were drawn.

- ◆ Denver's sample includes 1,527 youth (806 boys and 721 girls) who were 7, 9, 11, 13, and 15 years old when data collection commenced in 1988. This sample represents the general population of youth residing in 20,000 households in high-risk neighborhoods in Denver.
- ◆ Pittsburgh's sample consists of 1,517 boys who ranged in age from 6 to 13 years and attended grades 1, 4, and 7 when data collection began in 1987. This sample represents the general population of boys attending Pittsburgh's public schools.
- ◆ Rochester's sample of 1,000 youth (729 boys and 271 girls) was drawn from

students attending grades 7 and 8. This sample represents the entire range of seventh and eighth grade students attending Rochester's public schools.

## Research Findings

Numerous researchers have documented that the commission of violent acts by adolescents is not evenly distributed in U.S. society. Levels of involvement have been shown to vary by demographic characteristics, such as age, sex, and ethnicity. The findings of the Causes and Correlates studies not only provide general support for what was found in past investigations, but also add to the knowledge base.

For instance, previous investigations of the demographic characteristics of adolescent violent offenders have typically shown that the rates of violence among males dissipate after peaking at ages 15 to 17. The Causes and Correlates studies did not reflect this decline in late adolescence. Researchers found that older males, children (some as young as 10 years old), and females in the samples reported greater involvement in serious violence than would have been expected from previous research. While the findings cannot be generalized from the three research sites to the entire Nation, what may be detected with these contemporary data is a reflection of recent shifts in violence participation rates among girls and boys. The policy implications of these findings are presented in "Conclusions" at the end of this Bulletin.

**Measure of serious violence.** To examine adolescent levels of involvement in violence, the researchers constructed a measure of self-reported serious violence that incorporated aggravated assault, robbery, rape, and gang fights. At each

### Questioning Youth About Serious Violence

Violent Crime	Interview Question: "How many times in the last reporting period have you..."
Aggravated Assault	"...attacked someone with a weapon or with the idea of seriously hurting or killing them?"
Robbery	"...used a weapon, force, or strongarm methods to get money or things from people?"
Rape	"...physically hurt or threatened to hurt someone to get them to have sex with you?"
Gang Fights	"...been involved in gang fights?"

private interview, the youth respondent was asked to report if and how often he or she committed these serious violent crimes within the last reporting period. Each positive response was followed up with additional questions about the nature of the specific violent offense.

In the development of any measure of human behavior, the issue of validity of the data must be addressed. The researchers attempted to minimize the problem of retrospective recall by repeating waves of interviews at reasonable intervals, varying from 6 to 12 months across the research sites, as indicated earlier. Self-report data are also considered far more accurate than official records of arrests in terms of capturing the full range and frequency of violent behavior. Even when self-reporting respondents cannot provide an exact count of their violent crimes, their estimates generally suffice to distinguish between low and high frequency and between intermittent and chronic violent juvenile offenders.

Homicide was not asked about as a separate item because of its low prevalence rate in the general youth population (less than .01 percent). However, homicide was included in the self-report data through followups to the aggravated assault or rape questions.

This measure of serious violence excluded reports of nonserious incidents. For example, simple nongang assaults were not counted; rather, the youth assailant must have attacked another person for the purpose of inflicting severe or aggravated bodily injury. Using this composite measure of serious violent offenses, the researchers then generated estimates of prevalence and offending rates at each site.

**Prevalence by age and sex.** Prevalence refers to the percentage of juveniles who report committing serious violent acts within the annual reporting time-frame. Prevalence rates by age and sex are presented in figures 1 (Denver), 2 (Rochester), and 3 (Pittsburgh). Unlike the Denver and Rochester samples, the Pittsburgh sample includes males only.

The prevalence figures provide data from ages 10 to 19, allowing a visual comparison of age groups to be made across sites. Due to variation in the ages of the samples, the full age range of 10 to 19 years cannot be reported in Pittsburgh and Rochester. Blank prevalence entries indicate that data for a particular age are currently not available at a given site.

The data groups in the following figures and tables are represented by this legend:



Figure 1: Prevalence of Serious Violence by Age  
Denver

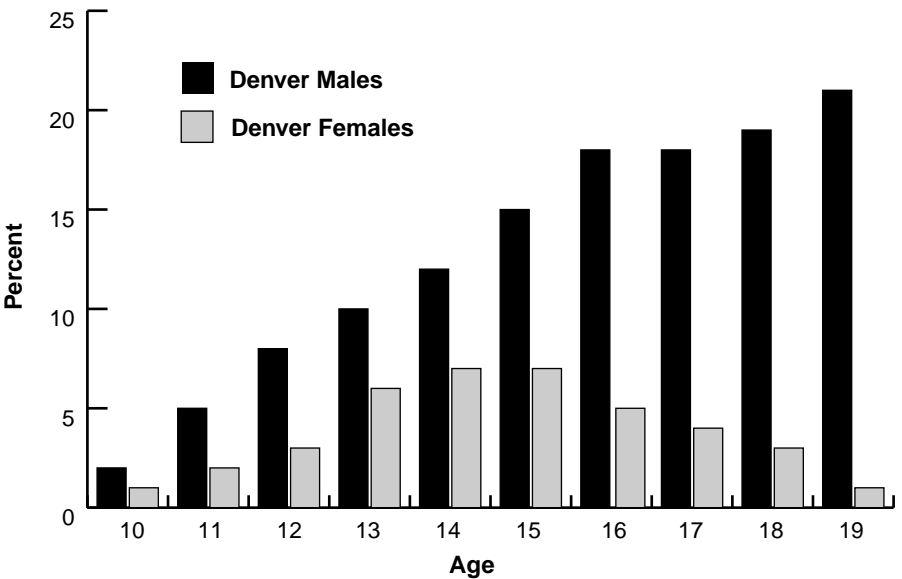
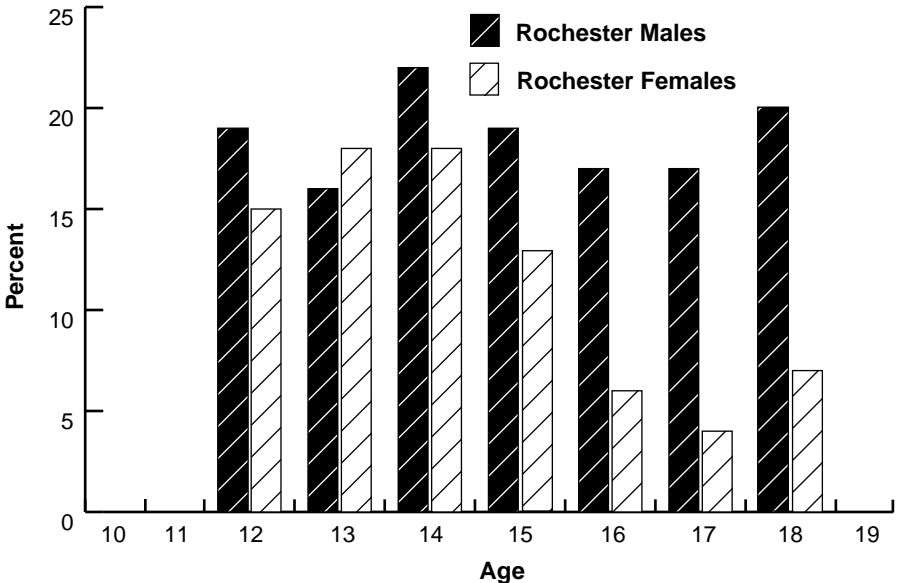
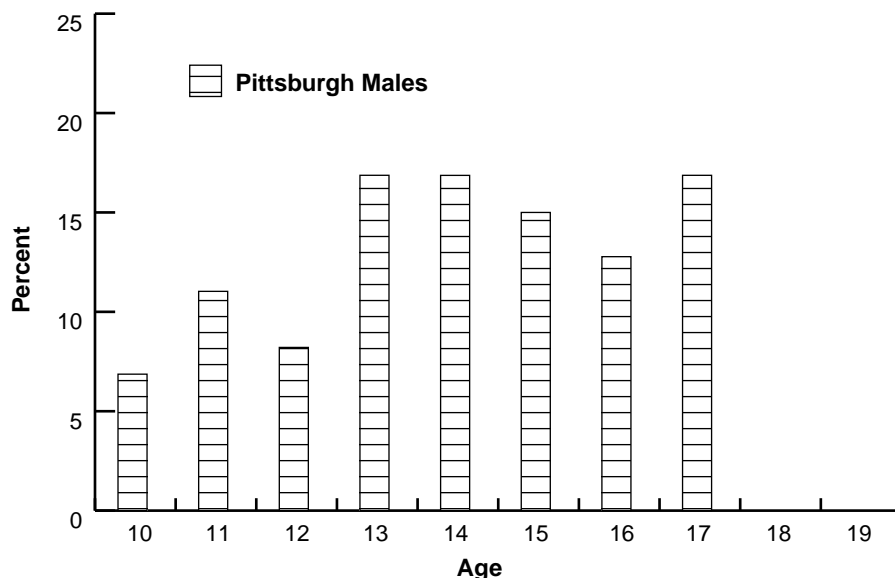


Figure 2: Prevalence of Serious Violence by Age  
Rochester



**Figure 3: Prevalence of Serious Violence by Age  
Pittsburgh**



As seen in figures 1 and 2, in general, a greater percentage of boys are involved in serious violence than are girls. This finding is in keeping with previous investigations and commonly held beliefs regarding the aggressive nature of boys. However, in the early teenage years (13 to 15), the prevalence of serious violence among girls is more than half of that of boys in Denver. In Rochester, the girls approach the prevalence rates of boys even more closely at ages 12 to 15. Of particular note is the unexpected height in the Rochester girls' prevalence rate at age 13, when 18 percent of the girls report the commission of serious violence, which exceeds the 16 percent of the boys so reporting. Clearly, during adolescence, involvement in serious violent behavior is not limited to males, and concern about violence by both sexes is warranted.

There is a clear difference in the age curves of serious violence between the sexes, as shown in figures 1–3. The girls show an expected age curve with prevalence rates peaking in mid-adolescence (ages 13 to 15) and generally declining thereafter. In contrast, boys show no decline in prevalence rates in late adolescence.

Analyses of serious violence prevalence rates for boys show a different pattern than has been found in other studies of individual offending. Previous studies have generally found male prevalence rates to peak at ages 15 to 17, unlike

arrest rates, which generally have been found to peak at ages 18 and 19. However, the Causes and Correlates researchers have yet to see a decline in males' self-reported involvement in serious violence in late adolescence. Prevalence rates remain high (17 to 21 percent) across ages 17 to 19. Denver's male prevalence rates are the most telling, as 18- and 19-year-olds rise above all previous ages. The oldest age reported for Rochester is 18 years, and for Pittsburgh it is 17 years.

Whether the anticipated decline in the prevalence of violence will be found for males at later ages is a key research and policy question. The researchers are continuing to interview the subjects as they mature. As soon as data become available, the results will be analyzed and published. The possible implications of an extended duration of peak prevalence rates are discussed more fully in "Conclusions."

The age curves also indicate that a small but substantial proportion of boys and girls were involved in serious violence even before becoming teenagers. In fact, at age 12 in Rochester, 19 percent of the boys and 15 percent of the girls reported involvement in these behaviors, while in Denver and Pittsburgh the numbers are smaller, but still substantial. Even as young as age 10, 7 percent of the boys in Pittsburgh reported involvement. For some youth, serious violence began early.

**Prevalence by age and ethnicity.** The researchers analyzed prevalence data by age and ethnicity. In Denver and Rochester, the combined sex samples were subdivided into three ethnic groups: Caucasians, African Americans, and Hispanics. In Pittsburgh, the all-male sample included substantial numbers of Caucasians and African Americans but insufficient numbers of Hispanics to calculate the prevalence rates of that ethnic group separately.

Differences in serious violence prevalence rates across ethnic groups are clearly seen in figure 4. Overall, a greater proportion of minorities were involved in serious violence. With the single exception of 18-year-olds in Rochester, prevalence rates were higher among minority groups than among Caucasians at each age and site. These differences were often substantial.

**Mean offending rates of active offenders.** It is important not only to consider what percentage of youth are involved in serious violence, but also to determine how often they are victimizing the community. For individual youth indicating active involvement in serious violence, offending rates were determined by counting the number of serious violent acts committed within the annual reporting timeframe.

Average or mean offending rates were then calculated at each site for the different ages by sex groups. For a given age, if the number of active offenders at a site was too small to permit calculation of a reliable mean offending rate, no rate is displayed in figure 5, and a dash is entered in the corresponding cell in table 1.

Figure 5 presents mean offending rates for serious violence. In general, an active male offender committed more serious violent acts than did an active female offender. In Denver, violent male offenders seemed to be far more active than females, beginning at age 13. The most pronounced discrepancy is seen at age 18 at the Denver site where males averaged 12 serious violent crimes, while females averaged 1 serious violent act. In Rochester, male offenders were more active than females; however, the differences between boys and girls were much smaller, especially in the midteen years. It is interesting to note that compared with Denver's girls, Rochester's girls approach boys more closely in terms of both prevalence and mean offending rates.

Figure 4: Prevalence of Serious Violence by Ethnicity and Age

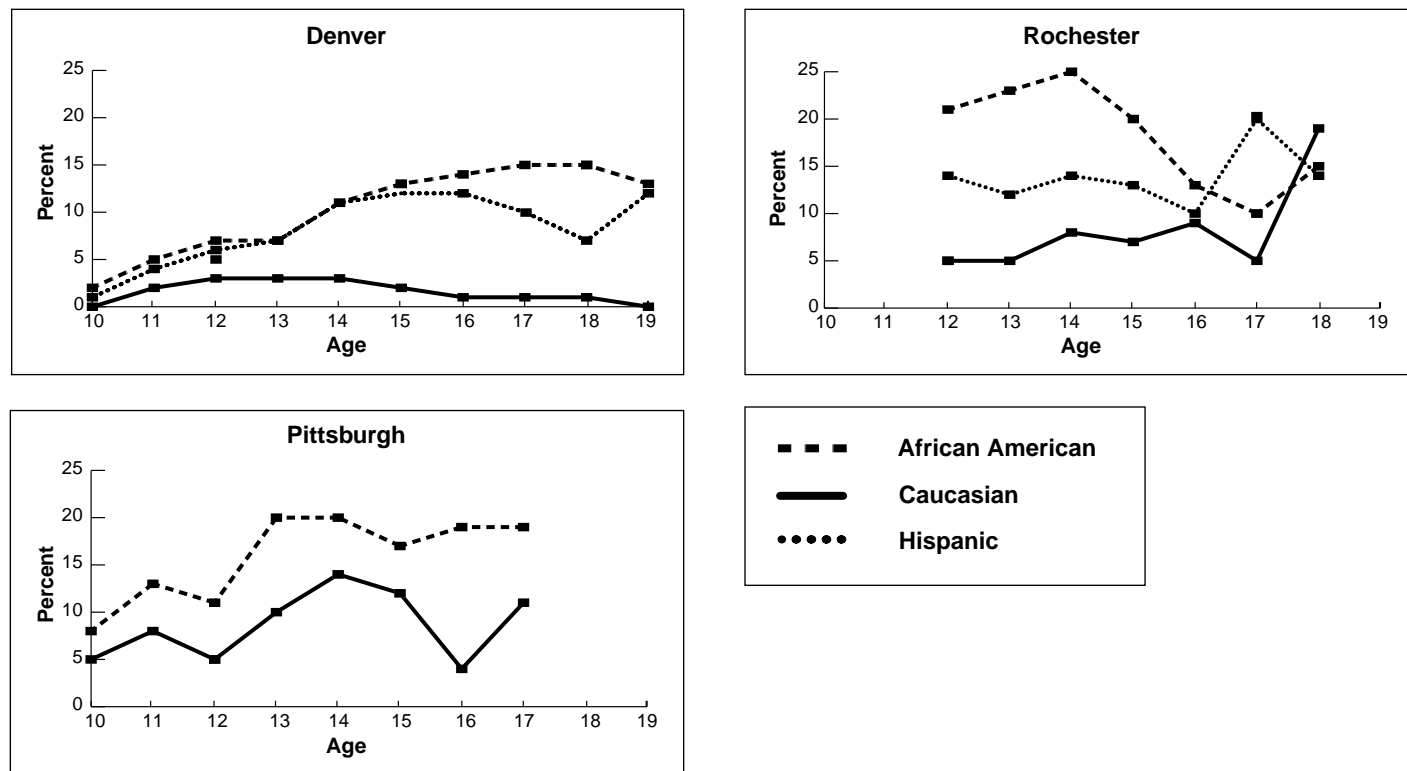
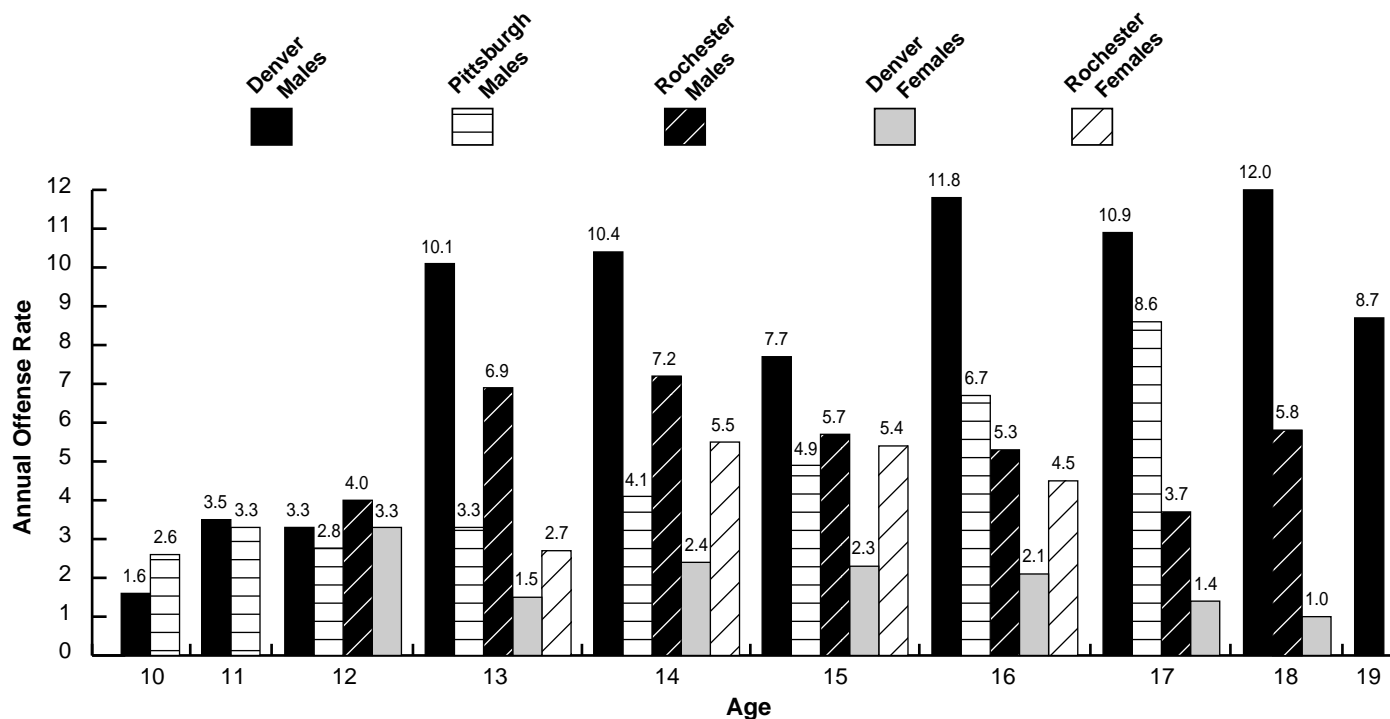


Figure 5: Annual Offense Rates of Active Offenders for Violent Offenses



**Estimation of the volume of serious violent offenses.** The prevalence rates and mean offending rates for each age by sex and by site provide data for estimates of the number of serious violent crimes that are committed on average by 100 boys or girls at each age representing the general populations sampled in Denver, Pittsburgh, and Rochester. Serious violent offense estimates were derived by multiplying the prevalence rate per 100 youth by the mean offending rate. See table 1.

Denver's 18-year-old boys reported the most serious violence, as shown in the table, with 19 of 100 boys committing an estimated total of 228 offenses. Pittsburgh's boys clearly showed an increase in violent offending as they aged. Rochester's boys appeared to peak at age 14 but were on the rise again at age 18.

The girls in Denver and Rochester appeared to have peaked at ages 14 and 15. The highest female offense estimate shown is 99 serious violent offenses for every 100 Rochester girls at age 14. For every age level, females engaged in far less serious violence than their male counterparts in Denver and Rochester. Even at age 13, when Rochester's female prevalence rate exceeded the male rate,

girls committed less than half as many serious violent offenses as did boys.

**Cumulative prevalence of serious violence.** A relatively large proportion of boys and somewhat smaller proportion of girls were involved in serious violence sometime before the late teen years. Figure 6 illustrates the cumulative prevalence of serious violence by age 16 across cohorts in the three sites. The proportion of youth who engaged in serious violence sometime prior to or at age 16 is shaded. The unshaded portion of the bar represents those youth who at age 16 had not yet reported any involvement in serious violence.

By age 16, at all three sites, approximately 40 percent of males reported committing one or more serious violent acts. In Rochester and Denver, the corresponding rates for females were also substantial, 32 percent and 16 percent respectively. While this does not mean that all of these youth are continuously involved in violence, it does indicate that a relatively large proportion of teenagers have engaged in serious violent acts.

At what age do youth join the ranks of those reporting a history of serious

violence? Figure 7 displays the cumulative prevalence of serious violence by age. As newcomers to serious violence are added each year, the line rises to reflect increasing cumulative prevalence percentages. It is interesting to note that a larger proportion of seriously violent girls than boys reportedly begin this behavior prior to or by age 13. In Rochester, slightly more than two-thirds, and in Denver one-half, of all girls reporting involvement in serious violence by age 16 initiate this behavior by age 13.

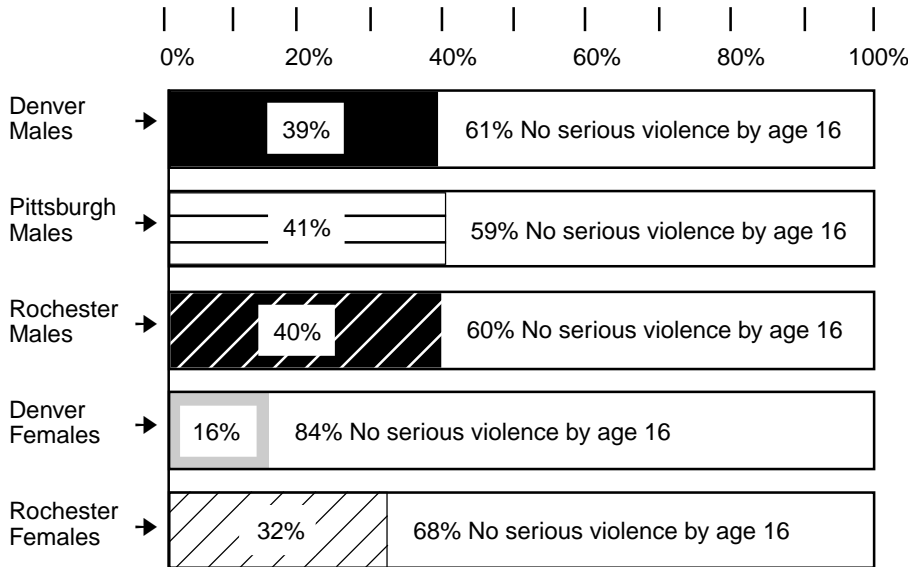
**Intermittent quality to juvenile violence.** Although violence is a stable trait for some persons, violent offending has an intermittent quality. For example, based on data from the first five annual waves of the Denver Youth Survey, it was found that 42 percent of violent offenders were active offenders during only 1 year; they suspended or terminated their involvement in the remaining 4 years.

Among multiple-year offenders in Denver, there were various temporal patterns of involvement. For careers that lasted 3 or more years, the most frequent pattern was sporadic offending. That is, well over half of these multiple-year offenders were

**Table 1: Number of Serious Violent Offenses by Age per 100 Subjects**

Age	Prevalence (per 100) Mean Offending Rate Number of Offenses (per 100)	Prevalence (per 100) Mean Offending Rate Number of Offenses (per 100)	Prevalence (per 100) Mean Offending Rate Number of Offenses (per 100)	Prevalence (per 100) Mean Offending Rate Number of Offenses (per 100)	Prevalence (per 100) Mean Offending Rate Number of Offenses (per 100)
10	2 x 1.6 = 3	7 x 2.6 = 18		1 — —	
11	5 x 3.5 = 18	11 x 3.3 = 36		2 — —	
12	8 x 3.3 = 26	8 x 2.8 = 22	19 x 4.0 = 76	3 x 3.3 = 10	15 — —
13	10 x 10.1 = 101	17 x 3.3 = 56	16 x 6.9 = 110	6 x 1.5 = 9	18 x 2.7 = 49
14	12 x 10.4 = 125	17 x 4.1 = 70	22 x 7.2 = 158	7 x 2.4 = 17	18 x 5.5 = 99
15	15 x 7.7 = 116	15 x 4.9 = 74	19 x 5.7 = 108	7 x 2.3 = 16	13 x 5.4 = 70
16	18 x 11.8 = 212	13 x 6.7 = 87	17 x 5.3 = 90	5 x 2.1 = 11	6 x 4.5 = 27
17	18 x 10.9 = 196	17 x 8.6 = 146	17 x 3.7 = 63	4 x 1.4 = 6	4 — —
18	19 x 12.0 = 228		20 x 5.8 = 116	3 x 1.0 = 3	7 — —
19	21 x 8.7 = 183			1 — —	
	Denver Males	Pittsburgh Males	Rochester Males	Denver Females	Rochester Females

**Figure 6: Cumulative Prevalence of Serious Violence by Age 16**



in terms of their implications for violence prevention.

**First, involvement in quite serious violent behavior began at a very young age for some of the children in the studies.** A careful reassessment of how to develop more effective and age-appropriate strategies for violence prevention, intervention, and control must take place.

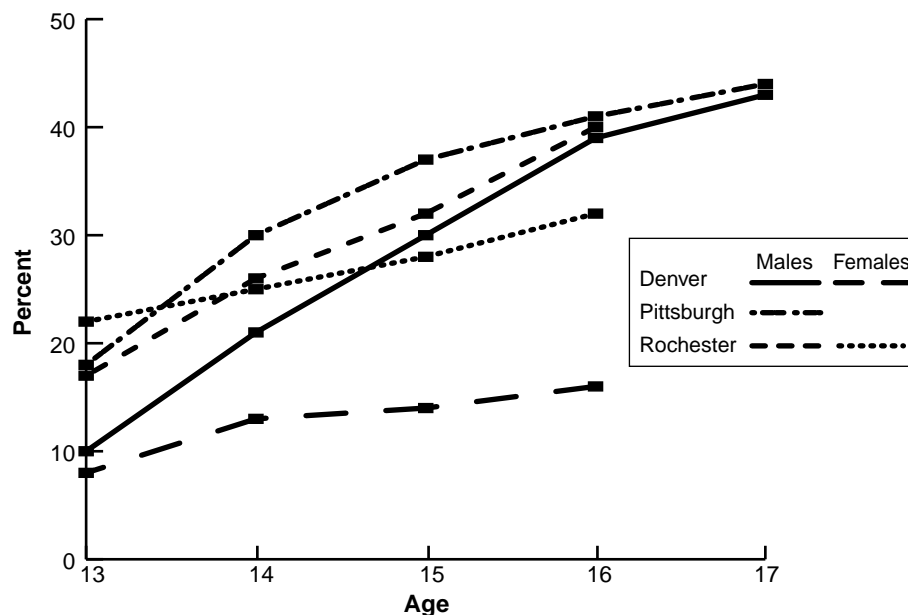
For instance, children in the samples as young as 10 years of age reported involvement in serious violent crime. Rather than waiting until the middle school years when violence is at its peak to implement violence prevention initiatives, efforts must begin much earlier, in the elementary school years, if not before, to address this issue.

There is a growing body of knowledge on how to craft effective prevention and early intervention programs for pre-adolescent children. *Delinquency Prevention Works* (OJJDP, 1995) provides a synthesis of current information on effective programs that seek to prevent delinquency, with specific discussions of key risk factors at each of the developmental stages, from prebirth through late adolescence. OJJDP's *Guide for Implementing the Comprehensive Strategy for Serious, Violent, and Chronic Juvenile Offenders* (Howell, 1995) details a risk-focused approach to both delinquency prevention and early intervention, with an emphasis on how to conduct needs assessments and develop responsive intervention plans. Both documents stress that the strongest prevention and early intervention approaches seek to reduce identified risk factors and enhance strengths and protective factors across the domains of the individual child, family, school, peers, and community.

Practitioners working with very young violent offenders can further benefit from the wealth of information that can be found in general clinical literature on the treatment of childhood emotional and behavioral disorders, such as conduct disorder. Clinicians generally agree that early intervention is the best method of redirecting the emerging negative behaviors of aggressive children.

Once a precocious, violent child comes to the attention of the juvenile justice system, the likelihood of subsequent violent behavior must be carefully assessed. The assessment must be appropriate for the developmental stage and chronological age of the child. The limitations of current

**Figure 7: Cumulative Prevalence of Serious Violence by Age**



not active every year. In fact, about 75 percent of those whose involvement spanned the full 5 years were characterized by such intermittent patterns of offending.

Clearly these offending patterns give caution to interpreting the behavior at any one given year to characterize or identify violent or nonviolent individuals.

## Conclusions

In many ways, these findings about the prevalence and offense rates of serious violence mirror those of prior research. However, on several significant topics, the research results of the Causes and Correlates studies diverge from the conventional wisdom. The following three research points merit further discussion

capabilities to screen for future violence must be recognized and attempts made to minimize the adverse consequences of identifying false positives and false negatives. Well-tested risk assessment instruments are available for these ages (Howell, 1995) and should be employed.

Every effort should be made in this assessment process to avoid stigmatization of children through negative labels. It is essential not to overlook how a child feels and reacts when he or she is viewed as a violent predator. Just as a child who is told he or she is ignorant may lose incentive to learn, a child who is categorized as violent may feel inclined to live up to that reputation.

Intervention efforts with violent young children require considerable creativity on the part of juvenile justice practitioners because most of the field's violent offender treatment literature concerns the adolescent offender. It may be helpful to collaborate with psychologists and psychiatrists encountering children with what is termed aggressive conduct disorder. Treatment teams should carefully assess individual children and family dynamics to develop comprehensive treatment plans. Measurable treatment goals and objectives must be clearly articulated. Treatment outcomes must be evaluated to determine what intervention strategies are most effective for the very young and violent offenders.

Perhaps the most important lesson to be taken from the findings about the early onset of violence is that it simply is not safe to assume that violence is a teenage phenomenon. Educators, youth workers, juvenile justice personnel, and parents of precocious, violent children need to be aware of the potential for serious violence among preteens and take special precautions to minimize opportunities for and control outbursts of aggression at home, at school, in the community, and in residential treatment facilities.

While a great deal is known about conducting informative needs and risk assessments and providing effective interventions, more can be learned from continuing research. Further data analysis is needed to carefully examine how these highly aggressive children progress through adolescence. Are their violent careers short-lived, intermittent, or chronic? Do the frequency and severity of violence diminish or escalate? Does contact with the juvenile justice system

and other intervention specialists have a positive impact on their behavior? Can turning points in their lives that are marked by the emergence of less aggressive and more prosocial behavior be identified? Once the full span of child and adolescent behavior is better understood, juvenile justice practitioners and other youth-serving professionals will be at a better vantage point to help redirect the lives of youth along a positive, non-aggressive course.

**Second, serious youth violence does not fall under the exclusive purview of boys.** Girls report considerable involvement as well. This country can ill afford to continue to downplay their significance in the full gamut of violence research, evaluation, prevention, intervention, and control (Weiss et al., 1996). Between 1991 and 1995, juvenile females outpaced the rate of arrest increases among their male counterparts in most offense categories, particularly the Violent Crime Index offenses (Snyder, 1997).

Violent girls appear to receive differential handling throughout juvenile court processing, based upon analyses of 1993 delinquency cases in which the most serious offenses were crimes against persons:

- ◆ Violent juvenile females (47 percent) were less likely than juvenile males (60 percent) to have their cases petitioned.
- ◆ Of those cases that were petitioned, adjudication was less likely among violent juvenile females (49 percent) than juvenile males (55 percent).
- ◆ Adjudicated violent juvenile females (61 percent) were more likely than juvenile males (54 percent) to be placed on formal probation as the most restrictive disposition.
- ◆ Female violent offenders (24 percent) were less likely than juvenile males (32 percent) to be ordered to an out-of-home placement following juvenile court adjudication and disposition (Poe-Yamagata and Butts, 1996).

Violent girls appear to be handled more leniently than boys throughout the various decision points in juvenile court processing. Several questions remain unanswered. Are the goals of public safety and accountability sufficiently stressed? Are violent girls benefiting from their juvenile justice system involvement? Can effective strategies be generated to assist girls in redirecting their development

along a more positive, nonaggressive course?

For the juvenile justice system to meet the challenges presented by aggressive girls, underlying assumptions about youth violence may need to be reexamined. It cannot be assumed that girls become involved in violence for precisely the same reasons as boys. Perhaps different risk factors may be influencing the onset and persistence of violent behavior in girls. Therefore, in terms of program initiatives, what works for boys is not necessarily effective for girls. Juvenile justice personnel should be sensitive to gender distinctions in risk factors, aggressive motivators, self-concept concerns, and individual treatment needs. Further analysis of data on violent girls is needed to determine the distinctions and the similarities with the body of research on violent male delinquents.

**Third, at the time of the current data analysis, boys in the three study sites failed to exhibit decreased prevalence of serious violence during their late teenage years.** If the duration of peak prevalence rates is extended, there are likely to be significantly higher levels of violent crime than typically projected. This occurrence could have major implications for public safety, particularly if this phenomenon is observed in other jurisdictions.

Among those Denver juveniles who self-reported serious violence over multiple years, the timing of their violence often was intermittent. Short-term assessments of recidivism cannot be relied upon to accurately predict the possible recurrence of violence in later adolescence.

Researchers and practitioners must look closely at the process of positive youth development and determine what key elements should be addressed to avoid the prolongation of peak adolescent violence. Analysis of data from the Rochester Youth Development Study suggests that resiliency factors that appear to buffer high-risk young teens from involvement in delinquency and violence may not have a lasting protective impact in later adolescence (Smith et al., 1995). Thus, while it is important to start intervention efforts early in their lives, it cannot be assumed that those early efforts will necessarily have long-term impacts. It may be necessary to provide developmentally appropriate social supports over a number of years to shorten the length of violent delinquent careers.

Most researchers who have attempted to identify risk factors and protective factors for juvenile violence have focused on early rather than late adolescence. Close examination is needed of factors that seem to heighten risk for extended peak juvenile violence. In addition, researchers must identify protective factors that boost resiliency in late adolescence. Such information is vital to inform the development of sound approaches for effectively intervening in the lives of older, violent, juvenile offenders.

The findings from this descriptive, epidemiological report suggest an active future agenda for OJJDP. It will be important to continue OJJDP's pioneering work in identifying the developmental pathways that lead to serious violent careers. It will also be essential to continue the Office's work in identifying effective intervention programs, implementing those programs on a wider basis, and evaluating them rigorously to expand the boundaries of the knowledge base.

## Upcoming Topics in the Youth Development Series

As the Program of Research on the Causes and Correlates of Delinquency continues to track the developmental milestones and adolescent life experiences of participating youth, an unprecedented wealth of longitudinal data is available to be analyzed. OJJDP is strongly committed to supporting analysis and dissemination of these research findings.

An upcoming issue of the Youth Development Series, entitled *Gang Members and Delinquent Behavior*, will be released in the near future. Subsequent planned topics include childhood maltreatment; a closer look at the chronic, violent juvenile offender; examination of developmental pathways toward serious delinquency; and adolescent firearms ownership, acquisition, and use.

Future issues will address a host of topics regarding the etiology of delinquency and drug abuse from the perspectives of individual youth, their families, peers, educators, neighbors, and juvenile justice system personnel. Some issues

will present cross-site analyses; others will focus on special topics examined at individual sites.

The Youth Development Series will provide new information about developmental risk factors that can inform the advancement of effective strategies for delinquency prevention and intervention among children and youth. OJJDP is confident that practitioners will take the next vital step: putting research into action.

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